

APPENDIX D-2

Public Meeting and Hearing Information Items

WELCOME

To the

PUBLIC HEARING

for
Improvements to the

CANAL ROAD ENTRANCE OF GEORGETOWN UNIVERSITY

Date: September 18, 1995
Location: Edzes Library Auditorium
Mount Vernon College
Time:

- 6 p.m. to 7 p.m. is an Open House Forum
Question and answer with Project Team
- 7-7:15 p.m. Break to rearrange room
- 7:15 - 9 p.m. is Formal Oral Testimony
Written transcript, public statements only

Project Team Representatives are available to answer your questions during the Open House Forum.

Your comments are important. Comments can be provided in any of the following three ways:

1. *An oral testimony during the formal portion of the public hearing. A speakers' sign-up list will be located at the hearing table. Oral records of statements are expected to begin at 7:15 p.m. A court reporter will also be available to record testimony between 6 and 7 p.m.*
2. *Written written form or other letter to be submitted by mail or e-mail*

3. *Written written form or other letter to be submitted by mail or e-mail*

September 14, 1995, and mailed to the address provided.

Federal Highway Administration - District Council Department of Public Works -

National Park Service - National Capital Planning Commission

Georgetown University - Canal Road Entrance
Revolving Highway - Second Avenue

PROJECT PURPOSE

The purpose of this project is to consider improving the entrance at Canal Road of the Georgetown University. It is a demonstration project funded by the U.S. Congress as such, it is not intended to address internal circulation or other access to the University, or eliminate traffic congestion on local residential streets.

PROJECT HISTORY

In 1976, the United States Congress authorized a study of the intersection of Canal Road and the Georgetown University surface. The entrance is to the university's Main Academic Campus Parking Lot. Federal Urban Mass Transportation Administration funds were utilized.

In 1983, an Environmental Assessment study was published. A signed and intersected was recommended, but was never implemented due to public concerns about traffic impacts to Canal Road.

In 1987, Congress authorized the current project in the Surface Transportation and Urban Relocation Assistance Act of 1987. Funding of approximately \$6 million was appropriated for the project. The 30 percent legal matching share required for Federal funding is to be provided by Georgetown University in the form of a scenic easement on 1.01 hectares (2.5 acres) of land.

Several agencies share responsibility for planning and implementing this project. They include the District of Columbia Department of Public Works (DCDPW), the U.S. Department of Interior, National Park Service, National Capital Region (NCR) and two divisions of the Federal Highway Administration: the District of Columbia Division (FHWA-DC) and the Eastern Federal Lands Highway Division (FHWA-ELHD). These agencies and the Georgetown University negotiated a Memorandum of Agreement, signed in December 1991.

PROJECT PROCESS

In accordance with the Memorandum of Agreement, the FHWA-ELHD is responsible for the project environmental documentation and design. In October 1992, a competition meeting was held to initiate the National Environmental Policy Act (NEPA) process. Detailed information on existing operations, development of possible alternatives, and assessment of potential impacts of alternatives to various environmental factors have been performed.

The Draft Environmental Impact Statement was approved for distribution in late July, 1995. Several Technical Reports support the information summarized in the DEIS. These reports include "Traffic and Transportation", "Air Quality, Noise Analysis", and "Analysis of the C2O Canal Project". In addition, an approximately detailed Phase I archaeological inventory and assessment was conducted and presented to the District of Columbia State Historic Preservation Office and to the U.S. Department of Interior.

Physical Impacts include air and noise. Both of these factors are predicted from ambient conditions, future traffic projections, and location of the proposed alternatives to sensitive receptors.

Air quality modeling used for this project relates potential air pollution from motor vehicles, queuing, idling, and traveling against the current and projected No Build conditions. While background levels of carbon monoxide (CO) are low for all alternatives including the No Build for every receptor sites, no site-specific CO concentrations or the National Ambient Air Quality Standards (NAAQS) 24-hour and 1-hour standards were exceeded by the other build alternatives or the No Build, due to the river flow conditions (i.e., the grade-separated).

Noise modeling predicted conditions at three locations along the C&O Canal Towpath, the only identified noise sensitive site meeting the criteria for potential receptors. Existing noise levels are very close to the Noise Abatement Criteria (NAC) established as guidelines for outdoor use. Noise abatement criteria must be considered when predicted noise levels exceed 67 dBA. A discussion of the noise abatement analysis is contained in the DEIS.

SUMMARY OF IMPACTS

ISSUE	ALT 1	ALT 2	ALT 2A	ALT 3B	ALT 3H
Woods	none	none	none	none	none
Trees	none	0.37 ±	0.37 ±	0.64 ±	1.26 ±
Grass Area	none	0.88 ±	0.88 ±	0.85 ±	1.18 ±
Trees	none	2.1 ppm	3.1 ppm	3.1 ppm	1.8 ppm
Water CO in one hour (2010)	none	65.4 dBA	64.08 dBA	66 dB(A)	67.1 dB(A)
Power Lines	none	0.97 ±	0.97 ±	0.74 ±	1.71 ±
Properties	none	1.7 ±	1.7 ±	1.55 ±	2.3 ±
Georgetown Historic District	none	1.7 ±	1.7 ±	1.55 ±	2.3 ±

Parkland impacts are a significant concern on this project. The parks in the study area are addressed in the DEIS. All build alternatives require National Park Service property. Redesign of property to NPS standards will be demanded by Georgetown University, as called for in the 1991 Memorandum of Agreement.

Historic and Archaeological Sites have been identified. All alternatives are within the Georgetown Blodget District, which is on the National Register of Historic Places. No standing structures will be impacted by any of the build alternatives. The existing Chesapeake and Ohio Canal National Historic Park canal wall, which is on the south side of Canal Road, will not be impacted by the build alternatives. Design of any build alternative will not effect the wall directly, or its load or bearing capacity. An archaeological assessment was conducted and over 5,000 artifacts, including many bones from an 1800's butcher shop, have been recovered. The general area east of the project, closest to the urban Georgetown community, has the highest potential for historical significance. Adequate mitigation for archaeology includes artifact recovery. Coordination with the District of Columbia State Historic Preservation Office is ongoing.

Section 4(f) of the U.S. Department of Transportation Act of 1966 requires that:

"The Secretary of Transportation shall approve any program or project which requires the use of any public owned land from a public park, reservoir area, wildlife and water bird refuge or national, state or local significance as determined by federal, state or local officials having jurisdiction thereof, or any land from a historic site of national, state or local significance unless (1) there is no feasible or prudent alternative to the use of such land and (2) such program includes all possible planning to minimize harm to such parks, reservoirs, wildlife and water bird refuges or historic sites requiring them such use."

Section 4(f) standards were initially identified within the stand-alone project vicinity which may be imposed by the Proposed Action. These include the Georgetown Historic District, National Park Service (NPS) park property (the Potowmack Park), the Chesapeake and Ohio Canal Historic District (which includes the C&O Canal), the Glover Archbold Parkway, the Potowmack Bridge, the George Washington Memorial Parkway, and several individual buildings, some of which are located on the campus of the Georgetown University.

Currently, there are two private property owners at the project area: The Georgetown University and the Riders' Fund. Georgetown University must comply with the District of Columbia Board of Zoning Adjustment regarding all development of facilities. The Rider's privately-owned parcel of land, which is affected by all build alternatives, is zoned R-3. This property is known as Lot 822, Lee Rivers Fund property, but which currently has no right of access. A right-of-way was provided to C&O by extension across National Park Service property and by right-of-way easement to access Lot 822. Any secondary development occurring as a result of this project and adjacent to park resources may be controlled by Section 4(f) use.

Soil-contaminant issues for this project's alternatives principally focus on potential secondary development and impacts. The National Park Service has determined that the development of the Blodget Park property would cause irreparable harm to their adjacent parklands and the character of the Potowmack Parklands. The NPS has the ability to protest the interests through the Memorandum of Agreement for this project. This approval is required for final plans, access points and land exchanges.

Traffic led to a driving force in the Impact Assessment early in the process. A minimal growth in traffic by the design year of 2016 had been assumed. However, in late 1994, the Director of

Comments on University Campus Road Extract
Comments on Environmental Statement

Comments on University Campus Road Extract
Federal Highway Administration

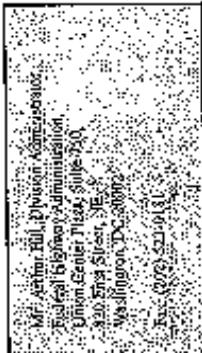
Columbus' revised low background traffic growth for the entire area. A growth of more than 10% in traffic is expected by 2016. With conditions currently already saturated during morning and evening peak hours, the duration of the peak periods will also increase. Regarding the impacts of the various alternatives, the percentages of University students (those meaning "non-academic campus guest parking lot" defined) in traffic during the peak hours is low. Details are presented in exhibits at the hearing, in the NEIS and in the technical report. For example, 2016 AM peak hour on MacArthur Boulevard at Towpath Rd + background traffic volume of 955 of which 27 (2.3%) would be relieved with Alternative 2A, and 31 (3.14 %) would be added for the other build alternatives.

Comments on NEIS

You can submit comments on the Draft Environmental Impact Statement (DEIS). Comments should be as specific as possible and may address the adequacy of the DEIS, or the merit of the alternatives, or recommend other alternatives or mitigation improvements, or all the above. Comments can be provided in any of the following three ways:

1. An oral statement during the formal portion of the public hearing. Oral recorded statements are expected to begin at 7:15 p.m. A speakers' sign-up list will be located at the greeting table, and speakers will be called upon in list order. Board officials and community leaders will be called upon to speak at the outset. Each speaker will have three (3) minutes to present testimony. No responses from the Project Team will be made to statements.
2. Written comment forms to be described in a designated box as the public hearing.
3. Written comment forms or other letters to be submitted by mail no later than September 30, 1995, and mailed to:

Mr. Arthur Hill, Division Manager
Federal Highway Administration
Union Center Plaza Suite 200
330 First Street, N.E.
Washington, D.C. 20590
(202) 289-2101



FHWA - Canal Road Entrance Project
at Georgetown University

COMMENT SHEET

All comments are due by Sept. 30, 1995

Please add
to the Pr

PLACE IN DESIGNATED BOX
AT THE PUBLIC HEARING
OR MAIL TO:



**Mr. Arthur Hill, Division Administrator,
Federal Highway Administration
Union Center Plaza, Suite 250
820 First Street, N.E.
Washington, DC 20002**

Name:	
Address:	

Edu (202) 533-0133

SUMMARY OF THE PUBLIC HEARING

for
Improvements to the Canal Road Entrance
of Georgetown University

Note: This entire section is new to the FEIS. "Responses" to the comments contained herein appear in bold text.

A Public Hearing was held for the project on September 19, 1995 at the Eckles Library Auditorium at Mount Vernon College. The format of the meeting consisted of an open house forum from 6:00 p.m. to 7:00 p.m. with exhibits and project reports on display. Project Team members were also available for questions and answers during this period. This portion of the meeting was followed by formal oral testimony from 7:15 p.m. to 9:15 p.m. The public was invited to individually provide public statements regarding the proposed improvements to the Canal Road Entrance of Georgetown University. A moderator facilitated the latter portion of the meeting, limiting comments to approximately three minutes each.

Additionally, a court reporter was available to take public statements relative to the project. The public was also encouraged to provide written comments at the Public Hearing or by mail to the Federal Highway Administration no later than September 30, 1995.

Public Hearing brochures were distributed to the public as they entered the meeting. [See Appendix D.] The brochures included an explanation of the project purpose, a description of the project alternatives considered, and a discussion of various environmental issues relative to the project. 75 people signed the attendance sheet for the meeting and 36 people signed up to speak. However, only 33 people actually did make an oral statement to the audience. Most of the speakers represented local neighborhood groups.

Public comments included a wide variety of subjects related to the project ranging from social and environmental impacts to procedural issues. The following is a list of the main topics that most of the comments have been grouped into:

- Traffic impacts
- Secondary development (Riders' Fund property - now Lot 822)
- Georgetown University growth
- Environmental impacts (air quality, noise, and visual resources)
- Project alternatives
- Legal procedural process

The majority of the people expressed multiple concerns, with specific emphasis on traffic congestion and future development of the Riders Fund property (Lot 822). Many of the speakers

also indicated their preference for one of the project alternatives as described in the DEIS and presented on the exhibits at the Public Hearing.

TRAFFIC IMPACTS

Comments on traffic concerns focused on two issues: traffic projections and impacts to local communities. The speakers stated a general disbelief in the traffic projections presented in the DEIS and shown on the Public Hearing exhibits. Many people mentioned that they did not think that the trip redistribution represented the truly expected future conditions around Georgetown University. As related to growth at the University, people questioned whether the traffic projections for the project took into consideration the additional 3.8 million square feet that the University has included in its master plan.

[See Section 3.1.2 "Socioeconomic and Community Characteristics, Georgetown". In 1990, the BZA approved up to 3.8 million square feet additional space for the University. The Main Academic Campus parking lot is constrained to its approximate 4,000 space size. The redistribution of traffic considered by this study addressed the users of this lot and how additional or limited access by the different alternatives may affect their journey.]

Most of the speakers were primarily concerned about the particular neighborhoods that they lived in. Speakers were present from the neighborhoods of Foxhall, Glover Park, Burleith, Georgetown, and Foggy Bottom. Everyone mentioned that there are serious traffic congestion problems in the project area. Residents complained about existing and perceived future delays if any of the build alternatives are selected.

[Section 3.2 "Traffic and Transportation" describes existing and future traffic conditions. Section 4.2 "Traffic and Transportation" describes the comparative impacts on traffic among the alternatives. The project focuses on changes resulting from the proposed entrance alternatives, and compares the existing "base" case and future "base" case with these alternatives.]

The p.m. peak hour traffic going westbound on Canal Road was pointed out as an example where long delays and difficult traffic operations will occur if Alternative 2A is selected.

[See details of existing conditions in Section 3.2 and on future conditions in Section 4.2 "Traffic and Transportation". Also, results on the Preferred Alternative are found in Chapter 5 – "Additional Traffic Analysis on the Preferred Alternative". The Preferred Alternative would actually reduce westbound travel time in 2016 between the Key Bridge and Foxhall Road from 521 seconds to 513 seconds.]

SECONDARY DEVELOPMENT (RIDERS' FUND¹)

The strongest complaint from the speakers regarding the (then) Riders' Fund property (Lot 822) was the lack of sufficient explanation and analysis of the potential development of the parcel by a private developer. Requests were made to clearly identify the Riders Fund property, the ownership of the parcel, existing and future access of the parcel, and impacts from privately developing that property.

Representatives of the Riders' Fund were also present at the meeting, and during the formal oral testimony they explained their intent "*to construct 17 tastefully designed townhouses...the anticipated townhouses would be four stories tall and sell for about \$1.2 million.*" The Riders' Fund representatives indicated that they believe they have the necessary zoning and documentation to proceed further with development plans without getting any additional approvals. The majority of the speakers expressed strong opposition to any development of the Riders' Fund property.

[The impacts associated with Lot 822 are discussed in Section 4.1.1 "Land Use" of the FEIS. Subsequent to the DEIS, several alternatives and their impact on this property were considered. The Preferred Alternative does not require land from or provide access to this property.]

GEORGETOWN UNIVERSITY GROWTH

As mentioned previously, the speakers stated that they did not think that expansion of floor space at Georgetown University was accounted for in the project's traffic analysis. [See Section 3.1.2 "Socioeconomic and Community Characteristics...Georgetown".]

Many people suggested that the University may have mixed land usage plans involving commercial activities, and that this project would simply benefit a private institution at the expense of neighboring communities. A representative of Georgetown University was present and during the formal oral testimony. He explained that the University has only built a small fraction of the approved additional 3.8 million square feet. He indicated that, due to funding constraints, future growth will not be as high as previously projected.

[See Section 3.2 for discussion of existing and future background traffic. No change to the main Academic Campus parking lot capacity would occur]

¹ This property was originally part of the right-of-way for a trolley which ran from the District of Columbia to Glen Echo, and was owned by the D.C. Transit System, Inc., as the operating company for the trolley. It was acquired by a Court-appointed trustee on behalf of a group titled the Washington Metropolitan Area Riders' Fund (Riders' Fund) at a foreclosure sale. On May 31, 1996 this property was transferred by order of the U.S. District Court to the Washington Metropolitan Area Transit Authority (WMATA). WMATA is still investigating the issue of title.

ADMINISTRATIVE PROCESS

The final group of public comments related to the administrative process for the Project, and focused on the Congressional Mandate. The public questioned whether federal funds should have been expended for the project prior to identifying the scenic easements that are required from Georgetown University as the local contribution to the project.

[See Appendix A for the Project Legislation and the interagency Memorandum of Agreement with Georgetown University, which commits the University to provide the necessary exchange of land.]

The public also questioned whether the project satisfied the Congressional Mandate since the Whitehurst Freeway (which is a Federal-aid primary highway) could be negatively impacted.

[See Appendix A for the Project Legislation. See also FEIS Chapter 2 – "Project Alternatives" and Chapter 5 – "Additional Traffic Analysis on the Preferred Alternative". The Congressional mandate regarding Federal-aid highways has been addressed. The Congressional Act mandated full access with no decrease in efficiency of Federal-aid highways. The Preferred Alternative provides all movements of access and egress; it also does not degrade traffic service. The mitigation commitment at the Whitehurst Freeway under the Preferred Alternative assists in satisfying this latter criterion.]

Several comments alleged or suggested that there were deficiencies in the analysis for the Draft Environmental Impact Statement.

[The DEIS was adequate, prepared in accordance with the appropriate Federal Highway Administration policies and Technical Advisory. Minor editorial corrections have been made. The FEIS is based on the DEIS, with necessary additions addressing the Preferred Alternative and processes since the DEIS. The "Reevaluation of the DEIS" is located in Appendix H.]

Speakers also requested FHWA to extend the public comment period to allow for a more complete review of the project documents.

[See Chapter 8 – "Comments and Coordination". All comments received were accepted, including those beyond the legally satisfactory deadline of September 30, 1995. Agency coordination continued through to the FEIS. For responses to written comments, refer to Appendix F.]



U.S. Department
of Transportation
**Federal Highway
Administration**

Eastern Federal Lands
Highway Division

21400 Ridgegate Circle
Sterling, VA 22170

DEC 2 1992

Refer to: HPC-15

Dear Sir/Madam:

The Federal Highway Administration (FHWA), in cooperation with the District of Columbia Department of Public Works, is preparing an Environmental Impact Statement (EIS) for Demonstration Project DE-0014(B01), Georgetown University Canal Road Entrance, Washington, DC. The proposed project consists of upgrading the existing Canal Road Entrance to allow for all turning movements at the entrance. Alternatives under consideration and to be discussed in the EIS include: (1) no action, (2) at-grade signalized intersection, and (3) grade separated interchange.

— A public information open house will be held December 10, 1992, 7 p.m. to 9 p.m. at the Eckles Memorial Library located in Mount Vernon College. The main entrance to Mount Vernon College is on W Street between Foxhall Road and 46th Street; after entering the main entrance, take your first left and Eckles Memorial Library will be the fifth building on the left. The purpose of the open house is to provide an opportunity for individuals, representatives of civic groups, public agencies, and governing bodies to offer comments regarding the proposed roadway improvements. You and representatives of your organization are invited to attend the open house. Attached is a map showing the project location and the open house site.

After the open house, timely status updates for the project will be prepared and distributed by the FHWA and sent to the Advisory Neighborhood Commissions, Citizen's Groups, and Homeowner Associations on our current mailing list. The updates will also be sent to any local citizen or other neighborhood groups who request to be on the mailing list at the open house. Once the impacts of each alternative have been evaluated, a Draft Environmental Impact Statement (DEIS) will be prepared and a public hearing will be held allowing the public to offer comments on the DEIS. The DEIS is scheduled to be completed in the fall of 1993.

If you have any questions or comments, please contact Mr. Gerald Yakowenko, Field Operations Engineer, at 202-523-0163. Written comments concerning this proposed action and the EIS should be directed to Mr. Arthur J. Hill, Division Administrator, Federal Highway Administration, Union Center Plaza, Suite 750, 820 First Street, NE, Washington, DC 20002.

Sincerely yours,

Gary L. Klinedinst
Gary L. Klinedinst
Division Engineer

Enclosures

cc:

Mr. Arthur J. Hill, FHWA Division Administrator, Washington, D.C. (HDA-DC)
Mr. Robert G. Stanton, NPS Regional Director, Washington, D.C.
Mr. Thomas O. Hobbs, Superintendent, C&O Canal NHP, -NPS, Sharpsburg, MD
Mr. George R. Lansnier, Vice President and Assistant Treasurer, Georgetown University, Washington, D.C.



U.S. Department
of Transportation
**Federal Highway
Administration**

Eastern Federal Lands
Highway Division

21400 Pogatoc Circle
Sterling, VA 22170

JAN 13 1993

Refer to: MPC-15

Dear Sir/Madam:

The Federal Highway Administration (FHWA), in cooperation with the District of Columbia Department of Public Works, is preparing an Environmental Impact Statement (EIS) for Demonstration Project DE-0014(801), Georgetown University Canal Road Entrance, Washington, DC. The proposed project consists of upgrading the existing Canal Road Entrance to allow for all turning movements at the entrance. Alternatives under consideration and to be discussed in the EIS include: (1) no action, (2) at-grade signalized intersection, and (3) grade separated interchange.

The open house originally scheduled for December 10, 1992, has been rescheduled for February 11, 1993, from 7 p.m. to 9 p.m. at the Eckles Memorial Library located in Mount Vernon College. The purpose of the open house is to present to the public conceptual drawings of the proposed alternatives shown in the enclosed informational package, answer any questions about the project's public involvement process and answer any specific project related questions. The main entrance to Mount Vernon College is on W Street between Foxhall Road and 46th Street; after entering the main entrance, take your first left and Eckles Memorial Library will be the fifth building on the left. Also enclosed is a map showing the project location and the open house site. You and representatives of your organization are invited to attend the open house.

After the open house, timely status updates for the project will be prepared and distributed by the FHWA and sent to the Advisory Neighborhood Commissions, Citizen's Groups, and Homeowner Associations on our current mailing list. The updates will also be sent to any local citizen or other neighborhood groups who request to be on the mailing list at the open house. Once the impacts of each alternative have been evaluated, a Draft Environmental Impact Statement (DEIS) will be prepared and a public hearing will be held allowing the public to offer comments on the DEIS. The DEIS is tentatively scheduled to be completed in the fall of 1993.

If you have any questions or comments, please contact Mr. Gerald Yakovenko, Field Operations Engineer, at 202-523-0163. Written comments concerning this proposed action and the EIS should be directed to Mr. Arthur J. Hill, Division Administrator, Federal Highway Administration, Union Center Plaza, Suite 750, 820 First Street, NE, Washington, DC 20002.

Sincerely yours,

Carl Hawley
to Gary L. Klinedinst
Division Engineer

Enclosures

cc:

Mr. Arthur J. Hill, FHWA Division Administrator, Washington, D.C. (HDA-DC)
Mr. Robert G. Stanton, NPS Regional Director, Washington, D.C.
Mr. Thomas O. Hobbs, Superintendent, C&O Canal NHP, -NPS, Sharpsburg, MD
Mr. George R. Lansnier, Vice President and Assistant Treasurer, Georgetown University, Washington, D.C.

PUBLIC INFORMATION MEETING

CONTENTS

**IMPROVEMENTS TO
GEORGETOWN UNIVERSITY
CANAL ROAD ENTRANCE
WASHINGTON, D.C.**

Project Map

Discussion

- 1. Project Description and Need**
- 2. Purpose of Public Information Meeting**
- 3. Regional Planning**
- 4. Alternatives Under Consideration**
- 5. Anticipated Impacts**
- 6. Written Comments**

- 7. Further Public Participation and Schedule**

Date: Thursday, February 11, 1993

Time: 7 PM TO 9 PM

Place: MT. VERNON COLLEGE
ECKLES LIBRARY AUDITORIUM
WASHINGTON, D.C.

FEDERAL HIGHWAY ADMINISTRATION
FHWA Project No: DE0014(B01)

1. PROJECT DESCRIPTION AND NEED

The proposed action involved construction of an intersection or interchange at the Canal Road entrance to Georgetown University. The purpose of this proposed project is to provide a more efficient and safe vehicle access into Georgetown University and relieve traffic conditions in the Georgetown area. Growth on the campus has led to an increase in traffic not only at this entrance to the university, but also at other entrances at Reservoir Road on the north side and Prospect Street on the east side of the campus. Subsequently, traffic volumes have increased on the narrow streets of Georgetown to the north and east of the campus.

Existing Canal Road is a 4-lane roadway between the Whitehurst Freeway and Southall Road. The two lanes in each direction on Canal Road are separated by a narrow concrete median. At the entrance to the university, no turning movements to and from the eastbound lanes of Canal Road are now possible. The proposed project would permit traffic entering and exiting Georgetown University to travel both east and west on Canal Road.

2. PURPOSE OF PUBLIC INFORMATION MEETING

The Public Information Meeting provides an opportunity for the Federal Highway Administration (FHWA), in cooperation with the District of Columbia Department of Public Works, to present the proposed project to the general public in the earliest stages of project development. It also offers an opportunity for individuals, representatives of civic groups, public agencies, and governing bodies to offer comments, submit written material, and ask questions regarding the proposed roadway improvements.

Informal public information meetings are beneficial to both citizens and the FHWA. They permit an exchange of ideas and information prior to the selection of alternatives for further study in the Environmental Impact Statement (EIS). The comments will assist the engineers in designing and selecting the project alternative and in addressing the community's concerns in the EIS. The intent of this process is to come up with design solutions that meet the project needs, yet minimizes the environmental and community impacts.

The proposed project will be completed in accordance with the requirements of the National Environmental Policy Act as delineated in U.S. Council on Environmental Quality regulations. The regulations outline a process in which governmental review

agencies, interested parties and citizens are involved in project decision making.

They are informed of the project status and potential environmental impacts through public participation or information meetings as the project progresses. As work progresses, a Draft Environmental Impact Statement (EIS) is prepared to assess the impacts of proposed project alternatives. This Draft EIS is published and circulated to government agencies, interested parties, and citizens for review. A public hearing is held to present information and receive comments on the proposed action, alternatives, and environmental impacts.

A minimum 90 day period is available after publication of the Draft EIS for written public comment. No final decision on selection of the alternative by FHWA may be made during this period.

The project may be significantly modified as a result of public comment received. After review of all comment received, FHWA will then file a Record of Decision which gives the reasons for selecting an alternative. A Final EIS is prepared incorporating any responding to comment received.

3. REGIONAL PLANNING

The project has been programmed in the regional transportation planning process, which is coordinated by the Metropolitan Washington Council of Governments and its Transportation Planning Board (TPB). The TPB approves the implementation of projects in the long range transportation plan through the annual Transportation Improvement Program (TIP) for the Washington Metropolitan area. The Fiscal Year 1992-1996 TIP includes the Georgetown University entrance improvement project as District of Columbia Project 20.

Federal funding for the project was authorized by the Federal Aid Highway Act of 1987.

4. ALTERNATIVE ORDER CONSIDERATION

The proposed action is in the earliest stages of development. Eight preliminary alternatives in the form of preliminary layouts have been developed to ascertain engineering parameters and feasibility. These range from a simplified intersection to complete interchanges. Two or three of these preliminary alternatives along with the no action alternative will be selected for further engineering study and evaluation in the EIS.

Schematics of the preliminary alternatives are shown on the next two pages.

5. ANTICIPATED IMPACTS

This project is expected to have a positive impact on traffic and air quality on local Georgetown Streets.

The potential visual and aesthetic impacts on the Georgetown Historic District, the CG Canal, and the Potowmack River Parkshed are of concern. Construction, traffic, noise, air quality, socio-economic, recreation, and archaeological impacts will also be analyzed and described in the EIS. All reasonable efforts to protect the environment will be included in the design and construction process.

6. WRITTEN COMMENTS

A comment form is included with this handout. Written comments may be made now and turned in at the front table. Alternatively, written statements and other materials relative to the proposed project may be submitted in place of, or in addition to, oral or written statements given at this meeting by using this preaddressed comment sheet. They should be submitted by February 23, 1993 to:

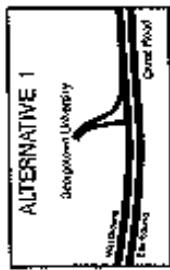
Arthur Hill
Division Administrator
Federal Highway Administration
Union Center Plaza, Suite 250
820 First Street N.E.
Washington, D.C. 20402

7. FURTHER PUBLIC PARTICIPATION AND SCHEDULE

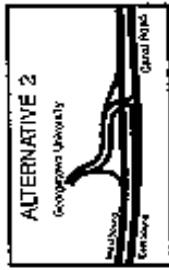
Additional opportunities for public involvement will be provided. A newsletter containing information on project progress and issues will be published periodically. If you wish to receive a copy of the newsletter, give your name and address and check the box on the enclosed preaddressed comment sheet.

It is anticipated that the Draft EIS will be published in autumn 1993. The public hearing will be held in late 1993 or early 1994.

ALTERNATIVE 1 is the stabilized alternative. It maintains the current canal road configuration and includes keeping the Georgetown Street entrance to the canal open.



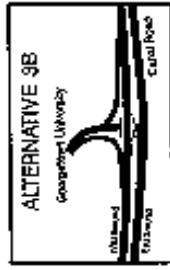
ALTERNATIVE 2 is an elevated intersection maintained by a traffic light. The elevated structure is moved to the east of the present location to provide room for a left-turn lane on eastbound Canal Road.



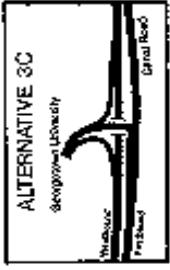
ALTERNATIVE 3A is all of the alternative 3 options & 2 modifications. This alternative elevates the westbound Canal Road lanes over the eastbound Canal Road lanes.



ALTERNATIVE 3B is similar to 3A, except that the Canal Road eastbound and westbound lanes are combined into a single roadway.



ALTERNATIVE 3C is similar to 3B, except that the Canal Road approach to the canal is removed and Canal Road passes over Q Street westbound lanes of Canal Road.



PRELIMINARY ALTERNATIVES

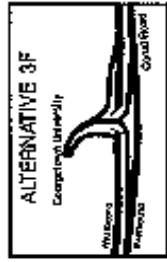
ALTERNATIVE 3D keeps all Canal Road
traces at grade level, with an ramp to and
from embanked Canal Road elevated to pass
over the embanked form of Canal Road.



ALTERNATIVE 3E has left-hand entrance
and exit ramps located between the
embanked and non-embanked forms of Canal
Road. An additional right-hand entrance
onto Canal Road will need to be justified for
name plating onto Foothill Road.



ALTERNATIVE 3F has left-hand entrance
and exit ramps connecting embanked Canal
Road and right-hand entrance and exit
ramps connecting non-embanked Canal Road.



ALTERNATIVE 3G is similar in plan to
Alternative 3C, instead of choosing the
embanked form of Canal Road, a bridge
crosses Foothill Road at grade level.



TYPE OR SAMPLE HERE

PUBLIC INFORMATION MEETING

□ □ □ □ □ □ □ □ □ □ □

IMPROVEMENTS TO SECTION 10 UNIVERSITY

GEORGE TOWN UNIVERSITY

ENTRANCE AT CANAL ROAD

Please complete this form and leave it today or fold and mail the
form by February 28, 1993, to:
Washington, D.C.

Mr. Arthur Hill
Division Adjoint
Federal Highway
Union Center Bldg.
820 Fleet Street
Washington, D.C.

Date:

150

Address: _____

Chlorophyll Biscaya
Yolk Yolk
Fertilization
Proteinase
Hatched

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Contents

Federal Highway Administration
Union Center Plaza, Suite 750
820 17th Street N.E.
Washington, D.C. 20004

DRAFT EDITION

MOLDED PLATE FIBER

Additional comments may be written on back of this sheet or attached to this sheet. Thank you for your participation in this project.

GEORGETOWN PUBLIC INFORMATION MEETING
SUMMARY OF COMMENTS

- 10 citizens/organizations replied to the proposed project following the February 11, 1993, meeting.
- 3 citizens/organizations were for one or more of the proposed alternatives.
- 1 citizens/organizations were against implementing any of the proposed alternatives.

Comments:

- Prefers signalization alternative (#2) because: it does not have a negative impact on the canal view from water or land; seems least expensive; and minimal impact on traffic flow. 1 - Mc Farlane.
- Accepts the proposed alternatives as long as the one chosen does not intrude on the canal visually or increase the noise any more than it already does. 2 - C&O Canal Association, Johnson.
- Any of the proposed alternatives would have negative impacts on the aesthetic view to and from the canal. 1 - Finney.
- Changes should not be made that will alter the canal and its wall. Strong traffic and pollution-reduction justification needed for any grade-separated alternative. 1 - Johnson.
- Drainage is poor along Canal Road so even if alternative 1 (no action) is chosen action should be taken to remedy the situation. 1 - Maruyama.
- The already fragile environment would be disturbed by any construction efforts as well as seriously inconveniencing thousands of commuters for an extended period of time for construction alternatives 3a-3g. 1 - Maruyama.
- Material value of property and quality of life along MacArthur Blvd. would decrease further from added noise, traffic congestion, and pollution. 1 - Noss.
- Approximately 10 years ago an alternate access from Canal Road was denied due to the impact on commuter traffic and the consequential impact on the environment in a residential area. The area includes Foxhall Rd., MacArthur Blvd., and Canal Road. Now that traffic is worse how can it be considered? 4 - Finney, Brackett, Maruyama, Sandusky.
- Georgetown University is not being forthright about its motivation for the project. The new entrance is for heavy oil trucks to have access to the proposed electrical co-generation plant routing them through Mac Arthur Blvd. 1 - Noss.
- I question the FHWA statement that the "project is expected to have a positive impact on traffic and air quality on local Georgetown streets." Traffic from campus at rush hour is negligible. 1 - Finney.

- Father George of Georgetown University testified before Congress that the proposed interchange would be an underpass. Most of the alternatives contradict this testimony. Legal ramifications should be considered.
3 - Finney, Sawaya(ANC 2E01), Sandusky.
- In 1983, \$6 million was appropriated for an underpass to be constructed. New alternatives could run as high as \$14 million. Where would the funding come from? 1 - Finney.
- Environmentally sound access to Georgetown University can be accomplished by constructing a bike path using an existing tunnel and abandoned railroad right-of-way. 1 - Finney.
- The following is a summary of the comments and requests made by ANC 2E through Westy McDermid, Chairman, representing 16,000 area residents:

ANC 2E is concerned that Georgetown University has not represented itself fairly to the FHWA. The proposed campus plan details over 3.57 million square feet of buildings that the Board of Zoning Adjustment has all but approved. The plan would also require the building of a 56,00 Watt co-generator on the campus which would affect the entire community. They request that the EIS be expanded to include the impact of traffic due to proposed campus plan buildout. Also, the EIS should include the number of persons currently traveling to the campus including identification of where they live and the number of cars currently parked on campus.
2- ANC 2E, Sandusky
- The following is a summary of the objections and requests made by Palisades Citizens' Association represented by Arthur Watson.

Objections:

 - no proof of benefit.
 - increase congested traffic and pollution.
 - no proof that traffic would decrease at other entrances.
 - studies conducted a decade ago show that traffic "bottlenecks" would occur which resulted in project being abandoned at that time.
 - decrease in property value in the area.
 - ruin aesthetic view of and from the canal.
 - principal route for joggers, pedestrians, and bicyclists would propose a safety hazard.

Requests that the draft EIS be based on:

 - independent, scientifically based study that provides data with respect to: (1) vehicular traffic to and from campus 24 hours/day, (2) traffic on several other nearby streets.
 - current air quality and anticipated effects.
 - non vehicular traffic.
 - evaluation of alternatives reconfiguring the other existing entrances.
 - effects to historic and scenic values.

Public Meeting Traffic and Transportation Summary

INTRODUCTION

This Summary outlines the traffic analysis completed as part of the preparation of an Environmental Impact Statement (EIS) for the proposed modification of the Canal Road entrance to Georgetown University. The Canal Road entrance is located on the south-east boundary of the University. The proposed modifications would allow full vehicle access to and from the east academic campus for eastbound and westbound traffic on Canal Road. The Canal Road entrance currently allows ingress and egress only for westbound traffic.

ALTERNATIVES

Using components on the nine conceptual alternatives presented at the last public meeting, four alternatives were selected by EPA/VA for evaluation in the EIS.

Alternative 1 - No Action: This alternative would maintain the existing entrances to both Canal Road and Prospect Street as they currently exist.

Alternative 2 - At-Grade Intersection: This alternative would reconstruct the Canal Road as a signalized at-grade intersection. Turning movements in all directions would be allowed.

Alternative 3B - Reinforced Canal Road Elevated: With this alternative, an interchange would be constructed to allow for westbound lanes of Canal Road. Neither eastbound nor westbound through traffic on Canal Road would be held up; traffic movements in all directions would be allowed.

Alternative 3H - Canal Road Underpass: This alternative would lower both lanes of Canal Road and a bridge would connect eastbound Canal Road with Georgetown University. As with Alternative 3B, eastbound and westbound through traffic on Canal Road would not have to stop. Turning movements in all directions would be allowed.

METHODOLOGY/BASIS FOR ANALYSIS

The determination and evaluation of traffic impacts were based on a combination of quantitative and qualitative processes. Potential traffic impacts were analyzed for selected streets and intersections in the vicinity of Georgetown University based on an assessment of the possible areas of impact. Potential impacts were identified by comparing current uses of traffic data:

- Existing traffic conditions in January 1993.
- Projected traffic in the year 2016 if the proposed entrance is not built—the No Action Alternative.
- Projected traffic conditions in 2016 if any of the four Build Alternatives is built.

Traffic and Transportation Survey

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Step 1 - Determine Existing Condition—Data Collection and Analysis

To identify current traffic conditions, manual counts by traffic observers and automatic traffic counters were used to count the number of vehicles at critical points on local roads and in the Prospect Street and Canal Road entrances. Turnaround and totalized vehicle counts at the two entrances were made. The manual counts were taken during the morning (AM) and afternoon (PM) peak hours and during a mid-day two-hour period.

Automatic counts were taken over a 24-hour period, Monday through Friday, January 24-25, 1993. Data was also obtained on turning movements and traffic conditions. These were used to form the intention of University traffic from the MA Academic Campus and local or non-University traffic. Data on regional travel patterns and parking at the University were also gathered. From this data, present (1993) traffic operations—level of service, queuing, and travel times—were documented.

Step 2 - Conduct Origin-Destination Survey

An Origin-Destination (O-D) Survey was completed of drivers of vehicles using the Canal Road and Prospect Street entrances. The two purposes of the survey were to determine the routes these drivers travelled to get to the University and the origin of their trip. The trip origins were grouped into zones and analyzed to determine the overall travel patterns to and from the University. The number of survey responses from each zone were compared to the number of permits issued for each zone and arrival and departure distribution percentages were adjusted accordingly. The results were used to quantify how much of the current traffic at the various locations is University-generated, and how much is local or non-University.

Step 3 - Determine Future Assignments and Conditions

The results of Step 1 and 2—current traffic conditions and the O-D Survey results—were then used to estimate future volumes for the No-Action and the three Build Alternatives. These included a breakdown of future traffic into the two categories—University and local or non-University.

The University traffic was assigned for each alternative based on travel routes. For the Non-Vehicle Alternative, the current travel routes and distribution were retained. For the three Build Alternatives, University traffic currently using the Prospect Street entrance was reassigned to different routes to get to the Canal Road entrance. The traffic was reassigned using accepted traffic engineering procedures based on the information on present routes, trip origin, and preferred route obtained from the O-D Survey. Potential traffic impacts of the four alternatives were then determined using future traffic characteristics and evaluation measures.

■ EXISTING AND FORECAST CONDITIONS

Existing and forecast conditions were obtained from two primary sources. The information on conditions at the University which affect traffic were obtained from the University's latest Master Plan as approved by the D.C. Board of Zoning Adjustment (BZA). Information on traffic conditions was also obtained by review of previous planning reports, field surveys and periodic collection of data, and generation of future conditions.

Georgetown University Master Plan
 Historical trends and projected growth at Georgetown University were obtained from the University's Biennial Master Plan developed in 1989 and approved by the BZA in 1990. The Master Plan calls for development through 2010 and beyond but was approved only to the year 2000 by the BZA. The approved Master Plan sees caps on (1) student enrollment and (2) parking spaces and approved increased levels of (3) building area and (4) faculty and staff for the University. While these four factors affect the number of vehicles trips to the Main Academic Campus, the number of parking spaces has the most direct effect.

The Master Plan foresees a full-time equivalent (FTE) enrollment of 7,696 students—5,617 undergraduates and 2,080 graduate and professional students. This is an increase of 340 FTE students over the 1989-90 academic year. This was set as a cap to student enrollment by the BZA. About 6,800 faculty and staff work at the University and Medical Center. The BZA approved the increase in the faculty and staff to 7,000 prepared by the Master Plan.

The approved plan also projects the addition of approximately 2.6 million square feet of building area to the existing 4.3 million square feet. The additional building area is needed to replace obsolete spaces, relieve overcrowding, provide dormitory space, and to supply needed support space such as additional library space and athletic facilities.

Finally, the BZA set a cap of 4,030 parking spaces for the entire University including the Main Academic Campus and the Medical Center. This represents an increase of 500 spaces over the current 3,730 spaces but not an increase in the total number of vehicles that can be parked. This is because existing valet parking will be eliminated in the future. Valet parking allows more vehicles to be parked than would be possible with drivers parking their own vehicles. Vehicles can park vehicles in spaces which block other vehicles while driver-parked vehicles require clear, unobstructed parking spaces.

Estimates of Traffic and Travel
 Existing and future peak hour traffic volumes on selected streets in the study area were developed as the basis for the analysis of impacts. This included determining the distribution and volume of University-generated traffic. The travel distribution patterns determined from the O-D survey were used to identify how much of the traffic at selected locations was University-generated. The existing travel patterns were used for the future No-Action Alternative. These patterns were modified for the Three Build Alternatives to account for the added movements at the Canal Road entrance resulting from the anticipated closing of the Prospect Street entrance.

Traffic and Transportation Summary

[pg]

New future local (or non-University) and University-generated traffic volumes were estimated.

Local traffic volumes were projected to grow 2% on the streets in the Georgetown area over the next 20 years. This growth was based on analysis of regional and citywide traffic growth factors used by the DC Department of Public Works (DPW) and the Washington Metropolitan Council of Governments (CMG).

Several factors were used to determine future University-generated traffic volumes. First were the rate and limit on growth at the University set by the BZA for student enrollment, parking spaces, building areas, and faculty and staff nondrivers. Setting a cap on parking spaces is an accepted method to limit the number of vehicles trips. Its effect can be seen at the University. Comparison of traffic counts for years 1982, 1988, and 1990 of vehicles entering and leaving the University show no increase during the peak hours and a slight decline on a daily basis over the last 10 years.

In addition, Transportation Demand Management Programs marketed as part of the leases from the University, Demand Management Programs marketed as part of the leases from the building, and faculty and staff nondrivers. Setting a cap on parking spaces is an accepted method to limit the number of vehicles trips. Its effect can be seen at the University. Comparison of traffic counts for years 1982, 1988, and 1990 of vehicles entering and leaving the University show no increase during the peak hours and a slight decline on a daily basis over the last 10 years. This growth, in conjunction with the decline in daily vehicle trips to the University, indicates a shift in mode from the auto to other modes of travel.

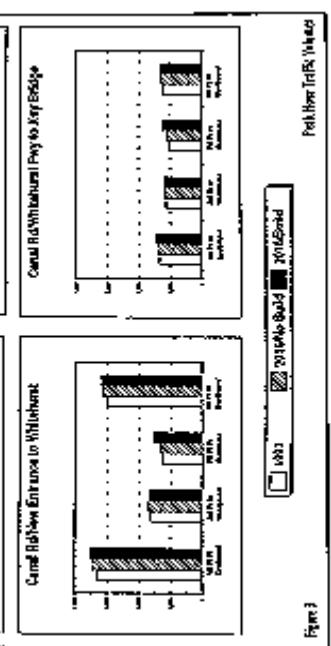
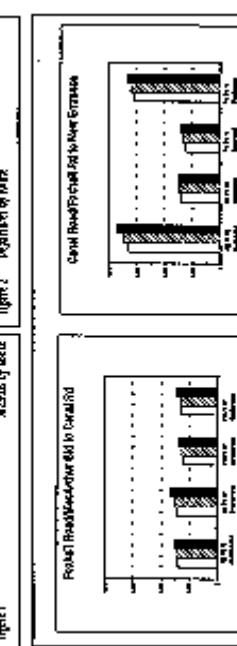
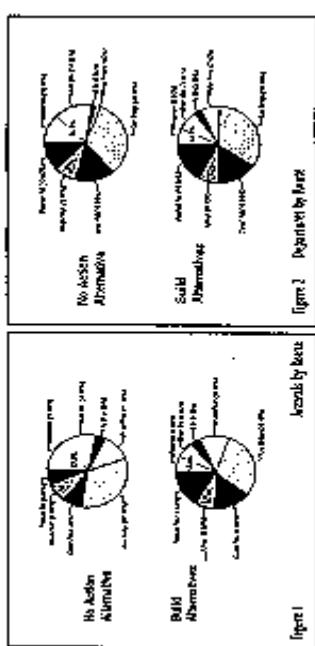
Based on these factors, it was projected that the University-generated vehicle trips would not increase through 2016. Total person trips to the University are anticipated to increase due to other modes. As evidenced by the GUTS project, the GUTS ridership has increased steadily over the last four years. This growth, in conjunction with the decline in daily vehicle trips to the University, indicates a shift in other arrival modes and not by single occupant (under 60) vehicles.

■ FINDINGS AND CONCLUSIONS

Potential traffic impacts were determined using the following measures:

- Changes in Travel Patterns in Georgetown University-generated traffic
 - Changes in Peak Hour traffic volumes on selected streets.
 - Impacts in Traffic Operations as measured by Level of Service (LOS), Travel Times, Queuing, and Waiting.
- Changes in Travel Patterns
 - Travel patterns to and from the University—as measured by general of vehicles using different routes—would stay the same as today with the No-Action Alternative. All Three Build Alternatives would produce changes in travel routes used to get to and from the University. For both arrivals and departures, the percentages using Wisconsin Avenue and Georgetown streets as selected meets.

Figures 1-2a, 2, 3a, 3b, 4a, 4b, 5a, 5b, 6a, 6b, 7a, 7b, 8a, 8b, 9a, 9b, 10a, 10b, 11a, 11b, 12a, 12b, 13a, 13b, 14a, 14b, 15a, 15b, 16a, 16b, 17a, 17b, 18a, 18b, 19a, 19b, 20a, 20b, 21a, 21b, 22a, 22b, 23a, 23b, 24a, 24b, 25a, 25b, 26a, 26b, 27a, 27b, 28a, 28b, 29a, 29b, 30a, 30b, 31a, 31b, 32a, 32b, 33a, 33b, 34a, 34b, 35a, 35b, 36a, 36b, 37a, 37b, 38a, 38b, 39a, 39b, 40a, 40b, 41a, 41b, 42a, 42b, 43a, 43b, 44a, 44b, 45a, 45b, 46a, 46b, 47a, 47b, 48a, 48b, 49a, 49b, 50a, 50b, 51a, 51b, 52a, 52b, 53a, 53b, 54a, 54b, 55a, 55b, 56a, 56b, 57a, 57b, 58a, 58b, 59a, 59b, 60a, 60b, 61a, 61b, 62a, 62b, 63a, 63b, 64a, 64b, 65a, 65b, 66a, 66b, 67a, 67b, 68a, 68b, 69a, 69b, 70a, 70b, 71a, 71b, 72a, 72b, 73a, 73b, 74a, 74b, 75a, 75b, 76a, 76b, 77a, 77b, 78a, 78b, 79a, 79b, 80a, 80b, 81a, 81b, 82a, 82b, 83a, 83b, 84a, 84b, 85a, 85b, 86a, 86b, 87a, 87b, 88a, 88b, 89a, 89b, 90a, 90b, 91a, 91b, 92a, 92b, 93a, 93b, 94a, 94b, 95a, 95b, 96a, 96b, 97a, 97b, 98a, 98b, 99a, 99b, 100a, 100b, 101a, 101b, 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Changes in Peak Hour Traffic Volumes

Existing and projected year 2010 peak-hour traffic volumes for the 210 Avenue and Canal Road entrance improvements are shown in Figure 3. Future peak-hour traffic volumes changes based on three local and University-generated traffic.

In the future, peak-hour traffic is expected to grow on the streets surrounding the University due to growth in local traffic, whether or not Canal Road entrance improvements are constructed. As noted earlier, traffic is projected to grow on local streets by about 5 percent over the next 20 years. This growth would occur even with the No Action Alternative.

The Build Alternative, for the entrance would not increase the number of University residents academic campus vehicle trips during the peak hour. Rather, the improvements would permit all vehicle turning movements at the Canal Road entrance. The resulting traffic patterns to and from the University would change the peak-hour traffic volumes on the surrounding streets.

With the construction of the new entrance and the anticipated closing of the Prospect Street entrance, peak-hour traffic volumes would decrease on residential streets east of the campus. On the other hand, traffic volume on some of the principal streets around the University would increase. For example, on Canal Road between Fossell Road and Key Bridge, the projected peak-hour changes in traffic are shown in Figure 3 which shows total volume for segments of Canal Road. The largest increases occur in the eastbound direction. These increases occur west of the new entrance in the AM peak hour north east of the new entrance in the PM peak hour.

Peak-hour traffic on Georgetown Streets would decrease (not only because of the travel routes but also by the closure of the Prospect Street entrance). Because of the closing, all vehicles to Virginia would be relieved from Georgetown streets.

Table 1
Definitions of Levels of Service - A to F

Level of Service	Traffic Flow	Speed	Accessibility
A	Free Flow	High	High
B	Backup	Selective	Slight
C	Stuck	Affected by others	Significantly affected
D	Stuck, Detour	Time-dependent	Severely restricted
E	Unstable, Erratic	Very slow	Extremely difficult
F	Breakdown	Stop and Go	None

Source: Based on the 1985 Highway Capacity Manual, Transportation Research Board.

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Impacts on Traffic Operations

The evaluation of traffic operations impacts for the four alternatives considered Level of Service (LOS), travel time, weaving and queuing. LOS is a traffic engineering term used to describe the operating conditions of vehicles in a traffic stream. Site levels of service are defined, "A" through "F", these are summarized in Table 1. This analysis is intended. Quantitative and qualitative aspects impacts to traffic operations of the nearby streets and intersections can be organized in two categories. The first category refers to the differences between the Build vs. No-Action Alternatives. The impacts of the three Build Alternatives are the same for all streets beyond Canal Road between Foxhall Road and the Whistlerian Ferryway. The second category of impacts is for the street of Canal Road. The impacts on traffic operation of this section of Canal Road are different for the three Build Alternatives.

Level of Service of Intersections for the No Action Alternative: the LOS in 2016 is projected to remain the same as it present. See Table 2.

Table 2.
Existing and Projected Level of Service

Intersection/Year	AM Peak Flow				PM Peak Hour			
	No Action	Alt. 2	Alt. 3	Alt. 4	No Action	Alt. 2	Alt. 3	Alt. 4
Foxhall-Canal 1993	D	B	C	A	2016	2016	2016	2016
Foxhall-Canal 2016	B	B	B	B	2016	2016	2016	2016
Canal/Mir Streech 1993	C	D	D	C	2016	2016	2016	2016
Canal/Mir Streech 2016	C	D	D	C	2016	2016	2016	2016
Canal/Westward 1993	E	F	F	F	2016	2016	2016	2016
Canal/Westward 2016	E	F	F	F	2016	2016	2016	2016

Travel Time and Queuing Analysis: Reliable estimates of traffic queue lengths on the signalized intersections studied using standard analytical procedures become of the existing congestion levels. A network flow analysis using traffic signal timing optimization would be necessary. However, it can be said that the existing queues along Canal Road, which积起来 to the campus entrance in the morning peak, could potentially worsen with Alternative 2, the Alt-Grade Intersection Alternative. This impact on operations could be reduced or eliminated if signal operation can be resequenced along Canal Road in the same manner as is done on some other arterials in D.C.

The two interchange Build Alternatives, would provide for uninterrupted through traffic movement along Canal Road and would have no appreciable impact on queuing along Canal Road. The queue would occur on the ramp to and from the University.

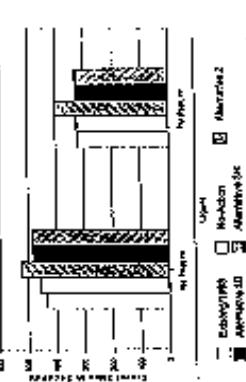
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Travel Time: The peak direction travel time was estimated for existing and future conditions for the roadway segment between the intersections of Reservoir Road and Foxhall Road and intersection of Canal Road and Key Bridge. This segment, about 1.2 miles long, was taken to represent a portion of a trip for a commuter passing through the Canal Road area to or from downtown Washington, D.C. Currently, a trip in the eastbound direction during the morning peak-hour takes about 7.2 minutes (432 seconds). A trip in the afternoon direction in westbound direction takes about 5.4 minutes (323 seconds).

For the No Action Alternative by 2016, the travel times would increase by 22 seconds in the morning and 2 seconds in the afternoon peak directions. This would occur because of the expected increase in non-University traffic. See Figure 4.

In 2016 with Alternative 2, travel time would increase by 72 seconds eastbound in the morning peak-hour, and by 77 seconds in the afternoon peak-hour, when compared to the No Action Alternative. This is due primarily to the delay in the signalized intersection at the entrance to the University. Per two Grade-separated alternatives, Alternatives 3&4 and 2&4, the increase in travel time, when compared to the No Action, would be 28 seconds in the morning peak-hour eastbound direction and 3 seconds in the afternoon westbound direction.



Queuing Analysis: Reliable estimates of traffic queue lengths on the signalized intersections studied using standard analytical procedures become of the existing congestion levels. A network flow analysis using traffic signal timing optimization would be necessary. However, it can be said that the existing queues along Canal Road, which积起来 to the campus entrance in the morning peak, could potentially worsen with Alternative 2, the Alt-Grade Intersection Alternative. This impact on operations could be reduced or eliminated if signal operation can be resequenced along Canal Road in the same manner as is done on some other arterials in D.C.

The two interchange Build Alternatives, would provide for uninterrupted through traffic movement along Canal Road and would have no appreciable impact on queuing along Canal Road. The queue would occur on the ramp to and from the University.

Traffic and Transportation Study

Figure 1

Traffic and Transportation Study

Page 4

Planning Analysis-Traffic "weaving" movements occur when vehicles change lanes in a short distance on a multi-lane roadway. If a significant portion of the vehicles are changing lanes, all traffic is slowed. A weaving analysis is relevant to this project only for the two grade-separated alternatives, 3B and 3E.

A traffic weaving movement is created between the Canal Road entrance and the Canal Road/Fishkill Road intersection in the westbound lanes of Canal Road under these alternatives. Drivers leaving the University would exit onto the right-lanes of Canal Road from the eastbound exit ramp. If these drivers wished to proceed west on Canal Road beyond Fishkill Road, or west on Maryland Boulevard, they must quickly shift to the left lane of Canal Road, as they do now. However, the grade-separated alternative would reduce the distance to make this weaving movement, making it more difficult.

East of the roadway, no significant weaving movement would be created by Alternative 3B. The exit ramp in this alternative merges with the left lane of eastbound Canal Road about 300 feet to the west of the Whitehurst Freeway intersection. Since both through and right-turn movements are permitted from the left eastbound lane of Canal Road at Whitehurst Freeway, there is no need for University-generated traffic to weave to the right lane to proceed east on Whitehurst Freeway.

For Alternative 3E, the situation is more difficult. Traffic from the interchange ramp to eastbound Canal Road enters onto the right-hand lane of Canal Road only about 300 feet from the Whitehurst Freeway intersection. Since the right-hand lane is for right turns only at Whitehurst, traffic continuing east on this intersection to Key Bridge or M Street would have to weave into the left-hand through lane. During peak hours this lane is often backed up at this point.